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ABSTRACT

The quality of on-the-job intercommunication tends to determine the satisfaction employees feel in their jobs. Communication satisfaction was tested experimentally among 130 management-level personnel in a wide range of fields. Results of the survey questionnaire were factor analyzed, item analyzed, and "formula analyzed." Factor analysis showed that "communication climate" and "communication with superiors" are of the utmost importance to job holders. Other analyses demonstrated the validity of the research procedure. Overall results showed that organizational communication and job satisfaction are related and that communication satisfaction in organizations is a "multi-dimensional construct." (CH)

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AN EMPIRICAL AND THEORETICAL INVESTIGATION OF COMMUNICATION SATISFACTION

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Testifying before the Senate Employment, Manpower and Poverty Subcommittee, Basil Whiting of the Ford Foundation said:

> We are a society given to intellectual fads and I fear that the fall publication season will see a raft of books and magazine articles making job satisfaction the "fad" of the winter. That would be unfortunate because there are real issues here which require close, careful, and long-term attention.... A variety of research needs to be undertaken on the kinds of work organization that foster satisfaction among workers. (Whiting, 1972, p. 7)

Certainly there are many consultants who have 'the answer" already, but research in job satisfaction has been of great concern for several decades by Dubin, Herzberg, McClelland, Drucker, and many others.

In the beginning, satisfaction was studied primarily because it was hypothesized that satisfaction was the key to motivating workers to produce more, but in recent years research had tended to dispell the nation of any such relationship.

> After summarizing available research through 1961, Scott could declare: "It is fairly clear . . . that high morale is no longer considered as a prerequisite of high productivity. But more than this, the nature of the relationship between morale and productivity is open to serious questioning.... Generalizations are impossible to make. At best, the morale-productivity relationship is situational.' It may be added that even the task of defining and measuring "morale" is far from settled. (Redding and Sanborn, 1964, p. 39).

Nevertheless, a theoretical link between these two phenomena is still a common one.

More recently, job satisfaction is being treated as an end-result goal which is just as important as productivity. Part of the impetus for this stems from Maslow's work on motivation. His hierarchy of needs postulates that as people have their physiological needs taken care of, new higher needs tend to be stressed. In our society,most people have jobs with a fair amount of security, and thus they focus on their needs for self-actualization and ego-satisfaction. Furthermore, the importance of satisfaction in the work environment has been popularized by McGregor's Theory Y and Blake's managerial grid so that more and more workers have come to expe vel of satisfaction.

Therefore, contemporary calls for an examination of what satisfied workers have many adherents. And despite the thorough works of researchers like Dubin,

Herzberg, Likert, and McClelland, the nature of satisfaction, the variables which produce it, and its effects, still remain somewhat ambiguous, and need further study. Since it is still implied by some that "good" communication leads to increased job satisfaction and greater productivity, the general orientation of this paper is to refine the concept of communication satisfaction. Specifically, its purposes are 1) to review the approaches to satisfaction and examine means of operationally defining communication satisfaction, 2) TO TEST THE HYPOTHESIS THAT COMMUNICATION SATISFACTION is multi-dimensional, 3) to identify the dimensions of it and lay the groundwork for building an inventory of it, and 4) to explore the theoretical relationship between communication and satisfaction.

DEFINITION:

The first problem area is to determine the most preferable means of defining communication satisfaction, and it is the premise of this paper that the best way of doing so will be to sum up the satisfaction with the principal dimensions of communication.

As review of the literature demonstrates considerable variety in the means by which satisfaction has been measured. A common and simple way is to get a global measure by simply asking a respondent to indicate the level of his job satisfaction on a 1-7 scale. The looseness of this definition, however, has often been attacked, and argument made for some means of facet measurement. The advantage of the facet approach is that it permits a subject to indicate satisfaction with "what". It should be noted, however, that this approach is based on the assumption that are those to which the subject is responding.

In their study of the meaning and measurement of satisfaction, Wanous and Lawler (1972) identified ten different ways that satisfaction has been measured, and argue that:

> Typically, it has been assumed that they do measure the same thing, and data collected with various approaches have been pooled to reach conclusions about the relationship of satisfaction to a

number of other variables. Since few studies have measured satisfaction in more than one way and compared the results, it is not clear that this is justified. (p. 95)

The ten definitions for satisfaction are as follows.

1. An overall measure of satisfaction, sometimes referred to as global satisfaction.

2. The sum of job facet satisfaction across all facets of a job, or

   $JS = \sum^{facets}$ Job facet satisfaction

3. A weighted sum of job facet satisfaction in which each facet is weighted in terms of its importance, or

   $JS = \sum^{facets}$ (importance x job facet satisfaction)

4. The sum of goal attainment or need fulfillment when summed across job facets, or

   $JS = \sum^{facets}$ (is now)

5. The sum of goal attainment or need fulfillment when summed across job facets and when each facet is weighted by its importance to the worker, or

   $JS = \sum^{facets}$ (importance x is now)

6. The sum across job facets of the discrepancies between how much a facet is characteristic of one's job and how much it should be characteristic, or

   $JS \sum^{facets}$ (should be -- is now)

7. $JS = \sum^{facets}$ [importance x (should be -- is now)]

8. The sum across job facets of the discrepancies between how much a facet is characteristic of one's job and how much the worker would like for it to be characteristic, or

   $JS = \sum^{facets}$ (would like -- is now)

9. $JS = \sum^{facets}$ [importance x (would like -- is now)]

10. $JS = \sum^{facets}$ (importance -- is now)

In order to compare these definitions, Wanous and Lawler collected satisfaction data from the same workers, using each of these measures. The different formula were then compared by computing each one's correlation with direct satisfaction measures. They concluded that "despite the relatively low correlations among the different measures, they still correlated highest when they are measuring satisfaction with the same facet so that they yield acceptable levels of convergent and

discriminant validity. This argues for the usefulness of measuring facet satisfaction." (p. 103)

DIMENSIONS

In terms of the theoretical perspective we propose that communication satisfaction is multi-dimension, and the focus of this research is to identify those dimensions. Already it has been demonstrated that satisfaction by itself is a multi-dimensional construct. Unfortunately, however, the dimensions are not always reported to be the same. Kahn and Morse (1951) identified five factors: satisfaction with work group, supervisor, company, job and pay. A correlational study by Herrick and Quinn (1971) indicated that the major determinants of satisfaction were job challenge, pay, comfort, resource adequacy, and relations with co-workers.

Perhaps the most famous theoretical and empirical treatment of satisfaction is identified with Herzberg. Originally, he (1957) identified ten factors of job satisfaction: 1) intrinsic aspects of the job, 2) supervision, 3) working situation, 4) wages, 5) opportunity for advancement, 6) security, 7) company and management, 8) social aspects of the job, 9) communication, and 10) benefits. These ten factors were eventually narrowed to the "now famous" two factors: 1) the intrinsic factor composed of items such as recognition, responsibility and growth, and 2) the hygiene or extrinsic factor made up of pay, supervision, benefits, and work conditions. Herzberg hypothesized that job satisfaction and job dissatisfaction are not simple opposites and that the former stems primarily from the intrinsic factors while dissatisfaction stems from the extrinsic or hygiene factors. Studies by Waters and Waters (1969) and Armstrong (1971) do not support the Herzberg theory and it is by no means universally accepted; but it is popular and has found support in studies like those of Paul, Robertson, and Herzberg (1969) and Steward (1970). King (1970) reviews the empirical research on Herzberg's theory and concludes that there is empirical support for the theory in its most general

form. In fact, his theory has been conceptualized or operationalized in five different ways. In his somewhat related study of the sources of attachment to work, Dubin found that some workers could not properly be classified as either satisfied or dissatisfied with their jobs; rather they were simply indifferent, and their sources of work attachment factored in different ways than did those for either the satisfied or the dissatisfied. Several researchers have already begun to explore this concept. Burhans(1971) designed several instruments to measure employee satisfaction with communication. He did not factor analyze his instruments, however, but contented himself with an item analysis. Building on the work of Downs (1971), Litman and Stringer (1969), and Friedlander (1964), Hazen and Quiggins conducted a pilot study with a sample of 164 employees of a small midwestern publishing company. Factor analysis of the data yielded four factors, communication climate satisfaction, task satisfaction, interpersonal non-task satisfaction, and superior-subordinate satisfaction. Thus, it would appear that there may be several factors within the general construct of communication satisfaction, and that an instrument can be constructed which would allow one to determine exactly what about communication is co-existing with a given satisfaction effect. Of special interest should be the investigation as to whether or not the concept of communication satisfaction is constituted by Herzberg's intrinsic and extrinsic factors. Furthermore, since the employee's affiliation with an organization goes far beyond just the task he performs, can the satisfaction with company communication programs divide according to task related and non-task related facets.

Two problems are inherent in any investigation of communication or communication satisfaction. One is the imprecision identified with the meaning for communication. Although it may be operationalized in limited ways for research studies, theoretical treatments often allow almost anything to be classified as either communication or part of the communication system. Hain and Widgery (1973), for example, measured communication only on two dimensions (1) information flow and

(2) trust between individuals, but other researchers may wish to examine it in terms of channels, technology, effects, source credibility, etc. Determining some priorities may allow more systematic comparisons of research studies.

Another problem with the concept of communication is that its intervention is frequently indirect. Herrick and Quinn (1971) noted that wage garnishment was a major concern among 1,533 workers studied, with 72% citing it as a sizeable or great problem. Since only two had ever had a garnishment, it would appear that workers lacked information concerning the relatively slight risk of garnishment. Yet, worker's comments on such a matter would not ordinarily be interpreted as a comment concerning communication.

The practical values of discovering the best means of defining communication satisfaction and ascertaining its principal factors are that the resulting instrument will facilitate investigations of current theoretical relationships between communication and satisfaction. The principal theory to be examined here is that of Likert.

In his research, Likert identified three sets of variables which could be linked together in a casual sequence.

Figure 1
Likert's Causal Sequence

Causal	Intervening	End Result
Leadership Behavior Organizational Climate Organizational Structure	Communication Motivation Decision-Making Control Coordination	Job Satisfaction Productivity Profit Labor-Management Relationship

Each of these sets can be defined briefly as follows.

1. The causal variables are independent variables which determine the course of developments within an organization and the results achieved by the organization. These variables can be altered or changed by the organization and its management. Causal variables include the structure of the organization and management policies, decision, business and leadership strategies, skills and behavior.

2. The intervening variables reflect the internal state and health of the organization, e.g. the loyalties, attitudes, motivations, performance goals, and perceptions of all members and communication, and decision-making.

3. The end result variables are the dependent variables which reflect the achievements of the organization such as its productivity, costs, scrap loss, and earnings. (Likert, 1967, pp. 26 and 29)

This model has been supported in research by Likert (1961, 1967), Marrow, Seashore, and Bowers (1967), Bowers and Mann (1969), and Seashore and Bowers (1970). On the other hand, contadictory evidence has been reported by Miles (1966), Farris (1968), Smith (1969), Morse (1970), Lawrence and Lorsch (1970), Cummins (1970) and Hain (1972). Such differences in findings are difficult to reconcile, but it is notable that the various studies differed also in theoretical perspective and in measurement devices.

In terms of this theoretical bent, it becomes crucial to treat communication satisfaction as a multi-dimensional construction. If one presupposes a multi-dimensional intervening variable (communication) that has some effect upon several end-result variables (satisfaction and productivity), it would be logical to assume that the various dimensions of the intervening variable may be operating quite differently in terms of which end-result variables they effect. Furthermore, if one assumes that the end-result variable of satisfaction is also multi-dimensional, it would be profitable to examine if and how the different dimensions of communication are associated with the different dimensions of satisfaction.

In summary, the relevance of the factor analysis and the multi-factor approach toward communication satisfaction stems directly from the conceptualization of communication as an intervening variable. As such, it has dimensions which may apply differentially to the end-result variables of production and satisfaction. Furthermore, since satisfaction is treated as a multi-dimensional concept, communication satisfaction may have dimensions which apply differentially to the intrinsic and the extrinsic factors of satisfaction as conceived by Herzberg. Theoretically,

one can build a rationale for such hypotheses of differential effects; it remains necessary, of course, to investigate empirically the nature of each of these dimensions to see what differential effects co-exist with them.

METHOD

SAMPLE

The questionnaire was administered to 175 managers and 130 responses were received. Three criteria were used in selecting the sample population. First, respondents were limited to those at the management level. Second, the group was to be as heterogeneous as possible. Included were military officers, managers of non-medical departments in hospitals, managers in a national professional organizatio managers from various business and government agencies who had attended a communication institute, and managers from a wide array of businesses who were enrolled in an evening M.B.A. program. Third, selections were made on the basis of availability and personal contact.

QUESTIONNAIRE

A pool of 88 items was selected for the questionnaire from a detailed examination of the literature, an investigation of other satisfaction instruments, the results of three projects, and an examination of some critical incidents. Since it was felt that many questionnaires have omitted some important aspects of communication, this study attempted to include items relating to communication in a broader range of important aspects.

On the original questionnaire, the items were grouped into three parts. One group of 23 items dealt with the type and amount of information communicated in the organization. Another group of 62 items centered on statements about communication in the job situation, (e.g. channels, skills, effects, inter-relationships, climate.) Finally, 3 items were designed to assess overall or general satisfaction.

In order to examine the data in terms of the several different operational definitions examined by Wanous and Lawler (1972), five different Likert type scales were used, to create a different response perspective to the same 88 items. The scales were preceded by an appropriate question, and respondents were asked to answer the question on a 1-7 scale. The questions and scales were as follows.

1) How satisfied are you with these aspects of your job?

. Dissatisfied 1 2 3 4 5 6 7 Satisfied

2) How much of each quality or characteristic is present on your job?

Uncharacteristic 1 2 3 4 5 6 7 Characteristic

3) How important are the qualities or characteristics to you?

Unimportant 1 2 3 4 5 6 7 Important

4) How much of each quality or characteristic would you like to be associated with your job?

Would not like 1 2 3 4 5 6 7 Would like

5) How much of each quality or characteristic do you think should be associated with your job?

Should not be characteristic 1 2 3 4 5 6 7 Should be characteristic

In order to avoid subject fatigue and the possibility of incomplete questionnaires, each subject responded to the 88 items on only three of the five scales. All subjects responded to the items on the dissatisfied-satisfied scale and the uncharacteristic-characteristic scale along with only one of the remaining three scales.

DATA ANALYSIS

Three forms of analysis were performed on this data: 1) factor analysis 2) item analysis and 3) analysis of the different formulas. Preliminary analysis centered on the responses to the satisfaction and characteristic items.

Two factor analysis was performed on the responses to the satisfaction questions and the characteristic questions. All 88 items were entered into an 88 by 88 correlation matrix. This matrix was then analyzed using the alpha factor analysis method developed by Henry Kaiser. The resulting factor loadings were rotated by both the Kaiser Normal Varimax method and the Cattell maxplane oblique rotation.

For the item analysis subjects were divided into quartiles on the basis of their responses to the overall satisfaction measure. The upper and lower quartiles were taken to represent satisfied and dissatisfied subjects. Responses of subjects

in these two groups were then compared on each of the other 87 response items for the satisfaction questions. A chi square statistic was used to determine whether the responses of the two groups were significantly discriminated between "satisfied" and "dissatisfied" subjects.

Analysis of the formulas is still in progress. When completed, the responses to the final three questions will be transformed using Wanous and Lawler's (1972) 9 operational definitions of satisfaction.

RESULTS

FACTOR ANALYSIS

Factor analysis of the satisfaction items was performed by both an orthogonal or independent rotation and an oblique or correlated rotation. On both rotations, items were considered to load significantly on a factor if they loaded .50 or over. Note was also made of whether the item loaded significantly on one or more factors and whether the loading was primary, secondary or tertiary (only within the oblique rotation was this a common phenomena).

The varimax rotation of the satisfaction items accounted for 69.29% of the original variance. Of the explained variance, six factors accounted for 63.09% of it with the remaining eleven factors accounting for the remaining variance. These six factors were ones which loaded with 4.5% of the explained variance or higher and which had at least three significant factor loadings. In the order of the amount of the variance they explain, the six factors have been given the following labels: 1) communication climate (17.02% of the explained variance), 2) communication with superiors (14.42% of the explained variance), 3) feedback (13.58% of the explained variance), 4) communication with work group (6.84% of the explained variance), 5) informational identification with the organization (6.75% of the explained variance and 6) communication with subordinates (4.48% of the explained variance).

The first factor represented a global measure of communication climate within the organization and reflected such items as: 1) communication motivates and stimulates an enthusiasm for meeting organizational goals, 2) attitudes toward

communication are basically healthy, and 3) communication within the organization is satisfactory. The second factor, communication with superiors, reflected communication both ways with the persons superior: 1) my superior listens and pays attention when I talk, 2) my superior is open to ideas, and 3) my supervisor offers guidance for solving job related problems. The third factor, feedback, reflected information about the worker's performance: 1) I receive information about results of my work and 2) I receive recognition of my efforts. The fourth factor, communication with work group, reflected horizontal communication among people who work together: 1) my work group maintains an effective rapport and 2) my work group exchanges ideas and opinions. The fifth factor, identification and integration, reflected information about the company and its policies that the individual might desire to know: 1) I receive information about personnel news and 2) I receive information about company policies and goals. And the sixth factor reflected the communication with subordinates: 1) my subordinates are receptive to evaluation suggestions and criticisms, and 2) my subordinates feel responsible for initiating accurate upward communication.

The varimax rotation of the satisfaction items seemed to spread the factors out; thus the question becomes whether this is an artifact of the method of analysis or reflects underlying dimensions. To test this question, the data was rotated according to an oblique rotation which does not require that all factors be independent. The resulting factors reflected some similarities and some differences with the varimax rotation. The communication climate factor, work group factor, and the communication with superior factor again emerged as significant separate groupings. The communication with subordinate factor was present, but very weak. The feedback and identification factors combined into a general information exchange factor, and two new factors emerged, which had been weak on the other rotation. The new factors represent an appropriateness of communication factor and an effectiveness of communication factor.

ITEM ANALYSIS

The item analysis revealed that most questions discriminated significantly between satisfied and dissatisfied subjects (appendix A).

DISCUSSION

It is quite clear that communication satisfaction in the organizational setting is a multi-dimensional construct. To a large degree it seems to reflect several of the major variables in the organization, but above all it reflects the major points of interaction for a person with his superiors, his subordinates, his work group, his own work and company policies.

The results of these factor analyses are highly compatible with the findings of Hazen and Quiggins (1972) and suggest that there are several generalizable dimensions to the concept of communication satisfaction. A general communication climate factor has been found consistently in all of the factor analyses and in all cases has accounted for the greatest portion of the variance of all the factors. Communication with superiors and communication with subordinates have been found in all analyses even though in one (Hazen and Quiggins, 1972) they were factored together and in the present analyses they have been two factors with the latter one weak. A work group communication factor has been consistent in all analyses and seems to pick up both task and non-task relationships with co-workers. In the first analysis, a task factor was strong, but in these analyses this factor has become specifically associated with the individual's work and reactions of others to it (thus named feedback). Items that have factored together this time as an integration with the organization factor were present in the original analysis, but tended to group with the communication climate factors.

Out of these analyses it is suggested that six factors have emerged for study: 1) communication climate, 2) communication with superiors, 3) feedback, 4) communication with work group, 5) informational identification or integration with the organization, and 6) communication with subordinates.

It is probably that the importance of each individual factor will vary from organization to organization, but in general they seem to reflect several stable dimensions. Further research with items will be needed to specify the full range of generalizability for the factor structure.

The most important implication of this factor structure is that since the concept communication satisfaction has been found to be unidimensional, it is possible that the varying factors may reflect the different concerns of individuals in organizations. If this is true then communication satisfaction may serve as a barometer variable for the study of organizations.

FURTHER RESEARCH

This paper represents just the beginning of a long-term investigation of communication satisfaction. Still to be done are the factor analyses of the items according to the other definition of satisfaction, the further testing of the items for validity and reliability, and the testing of our instruments in relation to the end-result variables of satisfaction and productivity.

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